

and three terminal setæ. *Mandible* with second and third joints of the palp remarkable on account of the dense clothing of spined setæ on both margins, and especially on the sides, they are of great length on the third joint; simple or plumose setæ are entirely absent*. *Maxillipeds* and *gnathopods* remarkably massive and strong, terminating in a strong simple nail, on either side of which are several large spines which are ciliated on one margin. *Legs* having the 4-articulated tarsus strong and much shorter than preceding joint, nail slender. *Telson* lanceolate, shorter than inner uropods, gradually attenuating to the extremity, which is narrowly truncate, and armed with three pairs of spines, the inner pair small, the intermediate pair very long, the outer pair somewhat larger than the central pair; sides of telson with twenty spines of equal size, and about equal distances apart, arranged throughout the entire length. *Uropods* very narrow; inner pair with a group of five spines, closely packed, and increasing in length distally, arranged round the curve of the otolithic area; no spines beyond these. The *pleopods* of the male are of the general character in the genus; the specialized outer branch of the fourth pair consists of nine joints, and the antepenultimate bears, like the preceding joint, a pair of plumed setæ; the penultimate is without appendages, the last terminates in a long spine-like seta, which is densely ciliated towards the extremity. Length 15 millim.

One male and one female specimen were procured by me when in Dr. Jeffreys's yacht 'The Osprey,' at Valentia, Ireland, in 1870. I do not know under what circumstances as to depth &c. they were obtained, as I had only labelled the bottle which contained them "Valentia, 1870."

[To be continued.]

XVI.—Notes on the Genus *Coturnix*.

By W. R. OGILVIE-GRANT, Natural-History Museum.

THIS paper contains a short account of the species comprising this group and a brief synonymy of the several species, giving the various combinations of names (generic and specific) under which each has been described, and references to the principal illustrations, except in the case of *Coturnix*

* Spined setæ but short are often present, as in *M. didelphys*, at the extremity only of the distal joint, the other setæ being plumed or simple.

coturnix, where the species has been frequently figured. The generic characters, a key to the species, and their geographical distribution are also given, together with a few notes which it is hoped may prove useful to other ornithologists studying this group of Gallinæ.

COTURNIX*.

Tail short, soft, and rounded, covered by the upper tail-coverts, and composed of ten or twelve tail-feathers.

First primary equal to the third and slightly shorter than the second, which is the longest quill; tenth primary very short.

Axillaries long and white.

Key to the Species †.

- I. Outer web of the primaries with irregular bars and marks of buff.
- A. Chin and throat white, with a black band commencing on the chin and passing down the middle of the throat. *C. coturnix*, ♂.
- B. Chin and throat bright rufous-chestnut, with the black band situated as above *C. capensis*, ♂.
- C. Chin and throat dull brick-red, without any black markings *C. japonica*, ♂.
- D. Feathers on the chin and sides of the throat white, short and rounded. No black band down the middle of the throat.
- a. Size larger. Wing ca. 4·2 *C. coturnix*, ♀.
- b. Size smaller. Wing ca. 3·8 *C. capensis*, ♀.
- E. Feathers on the chin and sides of the throat elongate and lanceolate, usually margined on one or both webs with rufous. No black band down the middle of the throat. *C. japonica*, ♀.
- II. Outer web of the primaries uniform brown, not barred or marked with buff.

* The genus *Synoicus* appears to be very doubtfully distinct from *Coturnix*; so far as I can see, the only tangible character by which the two can possibly be distinguished is found in the axillaries, which are shorter and greyer in the former. I think it highly probable that *Synoicus* will have to be merged in *Coturnix*.

† *Coturnix Eminii*, ♂, recently described by Reichenow (Allg. deutsch. orn. Ges. Berlin, Bericht x. (7th Dec. 1891), p. 3), is undoubtedly the male of *Excalfactoria Adansoni*, Verr.

- F. Chin and throat white, with a very clearly defined black anchor-shaped mark (a large black patch on the middle of the breast).
- c. General colour of the underparts buff *C. coromandelica*, ♂.
- d. General colour of the underparts chestnut. *C. Delegorguei*, ♂.
- G. Chin and throat brick-colour or chestnut.
- e. Throat dull brick-colour. Size smaller.
Wing ca. 4.1 *C. pectoralis*, ♂.
- f. Throat bright brick-colour or chestnut.
Size larger. Wing ca. 4.6 *C. novæ zealandiæ*, ♂.
- H. Chin and throat white or buff, without a black band down the centre.
- g. Chest-feathers without a submarginal band on either web.
- a'. Ground-colour of the wing-coverts sandy buff, underparts pale buff *C. coromandelica*, ♀.
- b'. Ground-colour of the wing-coverts blackish grey, underparts rufous-buff or dull chestnut *C. Delegorguei*, ♀.
- h. Chest-feathers with a submarginal black band on either web.
- c'. The black bands are not confluent in the median line, but separated by a buff isthmus. Size smaller. Wing ca. 4.1. *C. pectoralis*, ♀.
- d'. The black bands are confluent in the median line and form a W-shaped mark. Size larger. Wing ca. 4.6 . . . *C. novæ zealandiæ*, ♀.

While this paper was passing through the press the January number of the Journ. für Orn. arrived in England. It contains a full description and coloured figure of the so-called *C. Emini*, which must be added to the synonymy of *E. Adansoni*.

Coturnix coturnix. (Woodcut, fig. I.)

- Tetrao israelitarum*, Hasselq. Reise Palaest. p. 331 (1762).
- Tetrao coturnix*, Linn. S. N. i. p. 278 (1766).
- Ortyx coturnix*, Lath. Ind. Orn. ii. p. 651 (1790); Vieill. Faun. Franç. p. 255, pl. cxi. figs. 2 and 3 (1828); Selb. Ill. Brit. Orn. i. p. 437, pl. lxii. (1833); Körner, Skand. Fogl. p. 13, pl. xxviii. fig. 5 (1839-46).
- Ortygion coturnix*, Keyserl. u. Blas. Wirbelth. Europa's, p. 202 (1840).
- Ortyx coturnix*, Chenu et Desm. Encycl. Ois. vi. p. 154 (1854).
- Coturnix coturnix*, Licht. Nomencl. Av. p. 84 (1854).
- Turnix coturnix*, Salv. Ibis, 1859, p. 353.
- Perdix cothurnix*, Vieill. N. Dict. d'Hist. Nat. xxv. p. 248 (1817).
- Coturnix alba*, Bechst. Nat. Deutschl. iii. p. 581 (1793).
- Coturnix varia*, Bechst. l. c. p. 581 (1793).

Coturnix major, Bechst. l. c. p. 581 (1793).

Coturnix nigra, Bechst. l. c. p. 582 (1793).

Coturnix dactylisonans, Temm. Fig. et Gall. iii. pp. 478, 740 (1815); Steph. Shaw's Gen. Zool. xi. p. 361, pl. xxiv. (1819); Gould, B. Europe, iv. pl. cclxiii. (1837); Rowley, Orn. Misc. i. pl. xii. figs. 3 and 4 (1877).

Coturnix dactylisonans?, var. *indicus*, Hodgs. in Gray's Zool. Misc. p. 85 (1844); id. Icon. ined. in Brit. Mus. nos. 130, 131.

Coturnix communis, Vieill. Tabl. Encycl. Méth. i. p. 217, pl. xvi. fig. 2 (1823); Fitz. Atl. Nat. Vög. fig. 238 (1864); Fritsch, Nat. Vög. Europa, pl. xxx. figs. 7 and 8 (1871); Dress. B. Europe, vii. pp. 143, 476 (1878); Hume and Marsh, Game B. Ind. ii. p. 134, pl. (1879).

Ortyx communis, Lemett, Cat. Ois. Seine Inf. p. 129 (1879).

Coturnix communis orientalis, Bogdanow, Consp. Av. Imp. Ross. fasc. i. p. 44 (1884).

Coturnix media, Brehm, Handb. Vög. Deutschl. p. 528 (1831).

Coturnix minor, Brehm, l. c. p. 529 (1831).

Coturnix europæus, Swains. Class. B. ii. p. 344 (1837).

Coturnix vulgaris, Bout. Orn. Dauphiné, p. 72, pl. xliii. fig. 1 (1843).

Coturnix vulgaris, β . *Baldami*, Severtz. Turkest. Jevotnie, p. 68 (1873).

Coturnix Baldami, Naum. fide Brehm, Vogelfang, p. 274 (1855).

Coturnix leucogenys, Brehm, Naumannia, p. 288 (1855).

Coturnix chinensis, Swinh. Ibis, 1860, pp. 63, 358.

Synæcus lodoisiæ, Verr. et Des Murs, Rev. et Mag. Zool. 1862, p. 225, pl. xi.

Synoicus lodoisiæ, Saund. Ibis, 1869, p. 393.

Perdortyx lodoisiæ, Montess. Mém. Soc. Sàone, vi. p. 36 (1886).

Coturnix ypsilophorus, Bosc?, fide Gray, Hand-l. B. ii. p. 268 (1870).

Range. Æthiopian and Palæarctic Regions and India.

Race a. *Coturnix capensis*.

Perdix coturnix, Webb & Berth. Orn. Can. p. 29 (1836-44).

Ortygion coturnix, Godman, Ibis, 1872, p. 219.

Coturnix coturnix, Sharpe's ed Layard B. S. Afr. p. 603 (1884) [part. j].

Coturnix dactylisonans, Strickl. & Sclat. in Jard. Contr. Orn. 1852, p. 152.

Coturnix dactylisonans, Holub & Pelz. Beitr. Orn. Südafr. p. 188 (1882).

Coturnix communis, Newton, Ibis, 1863, p. 454.

Coturnix capensis, Licht. fide Gray, Hand-l. B. ii. p. 268 (1870).

Range. South Africa south of about 15° S. lat., Mauritius, Madagascar, Comoro Islands, Cape-Verd Islands, Canaries, Madeira, and Azores.

Perhaps no species of Game Birds have been more confused, and their changes of plumage less understood, than the Common Quail (*Coturnix coturnix*) and its near ally the Japanese Quail (*C. japonica*); and I am pleased to say that I have now at last discovered definite and well-marked characters by which both the males and females of these two species may be readily distinguished, while the intermediate

forms are, as I shall presently show, undoubtedly the results of interbreeding.

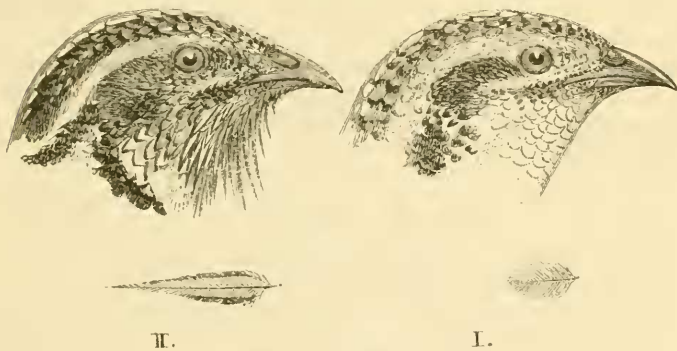
Coturnix japonica is the resident bird found in Japan and China, and sometimes occurs in N.E. India and Burmah, as there are specimens of this species in the British Museum obtained in Bootan and Karen-nee. The male is characterized by the uniform dull brick-red throat without any trace of a black band down the middle, and the female by having the feathers on the chin and sides of the throat elongate and lanceolate and of much the same structure as those found in *Perdix barbata*.

The typical form of *Coturnix coturnix*, commonly known as the migratory Quail of Europe, has the throat pure white, the male having a black anchor-shaped mark down the middle, while in the female the feathers on the sides of the throat are short and rounded, never elongate as in the female of *C. japonica*. This bird ranges over an enormous area, practically the whole of the Ethiopian and Palæartic Regions, extending in the south to South Africa and in the east to China and Japan. In the islands surrounding the African coast, namely Mauritius, Madagascar, the Comoro Islands, the Cape-Verd Islands, the Canaries, Madeira, and the Azores, and also in the southern part of Africa south of about 15° S. lat., a resident subspecies of *C. coturnix*, known as *C. capensis*, is found, which is distinguished from the typical form by its somewhat smaller size and by having the throat of the male bright rufous-chestnut with a black anchor-shaped mark down the middle. In Japan and China the migratory Quail (*C. coturnix*), as already pointed out, inhabits the same tract of country during the breeding-season as *C. japonica*, and there cannot be the slightest doubt that the two species frequently interbreed, with the result that all sorts of intermediate hybrids are produced. These intermediate plumages are most noticeable among the male hybrids. For instance, some have the dull brick-red throat of *C. japonica* and the black anchor-shaped mark of *C. coturnix*, others have only the upper two thirds of the throat dull red and the lower third white, while again a third lot have in addition a black band down the centre of the red part, and all kinds of intermediate stages between these three examples may be found. These hybrids are, so far as I know, generally only found in Mongolia, China, and Japan, though there is one specimen in the very large series of the British Museum said to have been obtained in Bootan. Equally also, though of secondary importance, *C. coturnix* interbreeds freely with the red-throated resident race (*C. capensis*) in South Africa and the

islands surrounding the coast, and the results are seen in the many male birds from South Africa and Southern Europe &c. in which the white parts on the sides of the head and throat are more or less suffused with the bright rufous-chestnut of the resident bird.

The females of course are not to be distinguished. I may add that Indian examples of *C. coturnix* are, generally speaking, very pure bred and seldom show any trace of rufous on the sides of the head and throat.

There are two specimens in the British Museum of the curious melanistic variety of *C. coturnix* which occurs in Spain. They were obtained by Mr. Howard Saunders in the marshy neighbourhood of Valencia. In the male the general colour of the upper parts is black, with narrow buff or rufous cross bars; the pattern formed by the wide golden-buff shaft-streaks on the feathers of the mantle and on each side of the body is normal; the greater part of the sides of the head, the chin, and throat are black, with here and there a white feather; the chest-feathers are mottled with black, and the feathers of the sides and flanks are black dotted with rufous and with a wide white shaft-stripe down the middle of each. In the female all the underparts are suffused with dull brown.



I. *Coturnix coturnix*, ♀ ad.
 II. *Coturnix japonica*, ♀ ad.

Coturnix japonica. (Woodcut, fig. II.)

Coturnix vulgaris japonica, Temm. & Schl. Fann. Jap. p. 103, pl. lxi. (1842).

Coturnix japonica, Blakist. Ibis, 1862, p. 329.

Ortygion coturnix, Radde, Reise Ost-Sib. ii. p. 306 (1863).

Coturnix muta, Dybowski, J. f. O. 1868, p. 337 (deser. nulla); Prjev. J. f. O. 1872, p. 138.

- Coturnix communis*, Blyth, Mamm. & B. Burma, p. 151 (1875);
Prjev. in Rowley's Orn. Misc. ii. p. 424 (1877).
Coturnix ussuriensis, Bogd. Cons. Av. Imp. Ross. fasc. i. p. 45 (1884).

Range. Japan, Manchuria, S.E. Mongolia, and China as far south as Canton. Specimens have also been obtained in Bhootan and Karen-nee.

Young males have the elongate throat-feathers like those of the adult female of *C. coturnix* above described, and the middle of the throat is suffused with dull brick-red; otherwise the plumage resembles that of the male adult.

In a rather more mature male *one side of the throat* has lost the immature elongate feathers like those of the female and assumed the short, rounded, dull rufous feathers characteristic of the male adult.

Prjevalsky is, as far as I can find, the only person who has previously noted the elongate feathers on the throat of this bird. He writes (Rowley's Orn. Misc. ii. p. 424):—"A male was obtained in S.E. Mongolia in June. It differs from the European bird in the longer lancet-shaped feathers of the sides of the throat, which are like those of *Perdix barbata*. I cannot say if this is a constant or only an occasional case, as we have got but one specimen for comparison."

This specimen, if correctly sexed, was no doubt a young male. Prjevalsky also remarks (*l. c.*), "This bird [*C. japonica*] is easily distinguished from the European one by its voice . . . and from the end of March to the middle of summer the call-note of the males can be heard daily, consisting of some deep hollow sounds several times repeated in quick succession."

Coturnix coromandelica.

- Coromandel Quail*, Lath. Gen. Syn. ii. pt. ii. p. 789 (1783).
Tetrao coromandelicus, Gmel. S. N. i. pt. ii. p. 764 (1788).
Perdix coromandelica, Lath. Ind. Orn. ii. p. 654 (1790).
Coturnix coromandelica, Vieill. Tabl. Encycl. Méth. i. p. 221 (1823);
Gould, B. Asia, vii. pl. ix. (1854); Hume & Marsh. Game B. Ind. ii. p. 152, pl. (1879).
Coturnix coromandelicus, Blyth, Mamm. & B. Burma, p. 151 (1875).
Perdix textilis, Temm. Pl. Col. v. pl. xl. [no. 35] (1824); Drapiez, Dict. Sci. Nat. viii. p. 429, pl., fig. 1 (1824).
Coturnix textilis, Temm. Pig. et Gall. iii. pp. 512, 742 (1815); Less. Traité d'Orn. p. 509, pl. xc. fig. 1 (1831); Jard. Nat. Lib., Orn. iv. p. 116, pl. viii. (1834).
Coturnix textilis?, var. *pluvialis*, Hodgs. in Gray's Zool. Misc. p. 85 (1844); id. Icon. ined. in Brit. Mus. nos. 119 and 120.
Perdix olivacea, Buchan. P. Z. S. 1831, p. 123.

Range. Greater part of the peninsula of India; Assam,

Manipur, Chittagong, and Pegu. It is no doubt also found in Arrakan.

The female of this species may be readily distinguished from the female of *C. coturnix*, which it otherwise closely resembles, by the absence of all buff or rufous bars and mottling on the outer webs of the primaries.

Coturnix Delegorguei.

Coturnix Delegorguei, Deleg. Voy. Afr. Austr. ii. p. 615 (1847); Jackson, Ibis, 1889, p. 583.

Coturnix histrionica, Hartl. Rev. et Mag. Zool. i. p. 495 (1849).

Coturnix fornasini, Blanc. Spec. Zool. Mos. fasc. xvi. p. 399, pl. i. fig. 2 (1850); id. Mem. Acc. Sci. Bologn. (2) iv. p. 521, pl. ii. fig. 2 (1865).

Coturnix crucigera, Hengl. Vög. N.O.-Afr. p. 51. no. 533 (1856).

Range. Africa, south of about 15° N. lat.

This species resembles *C. coromandelica* in having the outer webs of the primaries in both sexes uniform brown, not barred or marked with buff.

Coturnix pectoralis.

Coturnix pectoralis, Gould, P. Z. S. 1837, p. 8; id. Syn. B. Austr., text and pl., fig. 1 (1837-38); id. B. Austr. v. pl. lxxxviii. (1848);

Diggles, B. Austr. ii. pt. xv. pl. xc. (1867).

Synoicus australis, Ramsay, Ibis, 1865, p. 86.

Range. Australia, Tasmania.

Coturnix novæ-zealandiæ.

Coturnix novæ-zealandiæ, Quoy & Gaim. Voy. Astrol., Zool. i. p. 242, pl. xxiv. fig. 1 (1830); Gould, Syn. B. Austr., text and pl., fig. 2 (1837-38); Bull. B. New Zeal. p. 161, pl. (1873); Sharpe, in Voy. Ereb. & Terr., Birds, App. pp. 10, 27, pl. viii. (1875); Bull. Man. B. N. Zeal. p. 43, pl. xix. (1882); id. B. N. Zeal. i. p. 225, pl. xxiii. (1888).

Range. New Zealand [said to be extinct.]

XVII.—*Descriptions of Three new Species of Saturniidae in the Collection of the British Museum.* By W. F. KIRBY, F.L.S., F.E.S., Assistant in Zoological Department, British Museum (Natural History).

[Plate XI.]

Buncea Mitfordi. (Pl. XI. fig. 1.)

Exp. al. 112 millim.

♂. Dark blackish brown, collar narrowly red, and undersur-